

United States  
Department of  
Agriculture

Forest  
Service

Arizona Zone  
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Subject: Douglas-fir tussock moth report from Southwestern Region

To: Beth Willhite

I am unable to attend the Douglas-fir tussock moth meeting in Portland in March. The following includes some of my thoughts on the agenda as well as requested info on tussock moth conditions, databases, and reporting in the region.

#### DFTM Status in Arizona and New Mexico

##### Arizona

In 1997 trap catches at all sites averaged less than 40 moth's per trap and ranged from 0 to 35.2. Populations are rising in the Pinal Mountains in Central Arizona, east of Phoenix, one of our historical outbreak areas. Populations may also be rising in the nearby Sierra Ancha Mountains just to the north of the Pinals. This is another historic outbreak area. Populations are declining in Pinaleno mountains in southeastern Arizona, an area we added after finding larvae and defoliation in 1994 during a routine aerial survey groundchecking trip to examine ponderosa pine mortality. Trap catches have been declining there since we've started trapping in 1995. Catches have been very low at all other monitoring sites. I thought it was interesting that the patterns were not more synchronous between these different mountain ranges which are not all that far apart and would be curious if this is commonly observed in other areas. In our case we seem to have populations rising and falling in unison within each mountain range but between areas changes seem to occur independently of one another.

##### New Mexico

No trapping has been conducted in New Mexico in recent years. Tussock moth is found in many areas across New Mexico, however it seems to be primarily an urban problem. In 1997 defoliation was observed in and around a number of communities including White Rock, Los Alamos, Santa Fe, Espanola, Cedar Crest, Raton, Alto, Glorieta, and Ruidoso.

#### Regional Trap System, Data Bases, Analysis, Problems, and Reporting

In the Southwestern Region, trapping has been conducted using the early warning detection protocols since 1992 in Arizona. We are currently maintaining 55 traps on 11 sites in 5 different areas. Traps have been placed in areas where DFTM outbreaks have occurred in the past as well as in areas where there is host type but no recorded outbreak history. Sites have been added when DFTM defoliation has been observed in an area where previously it was not recorded. This level of trapping has proved to be relatively inexpensive to maintain and yet provides us with an indication of a potential change in population status.

We have set up a database in RBASE which is the program we have also used to maintain our aerial detection survey data. We plan to migrate our database to ORACLE.

The main difficulties we have run into have been with trap logistics. Access has been an issue in the Sierra Anchas, one of our historic outbreak areas, forcing us to move plots around from year to year in some cases. This has not been a problem at any of the other sites. We have maintained the traps in this area because of strong District interest and because of the history of DFTM in these mountains. Another difficulty we've had is with locating relatively open grown trees to place traps on. Most of our mixed conifer forests are multistoried and have closed canopies. I have observed that trap catches seem to be higher on sites that possess a closed canopy and wonder how that influences the trapping program.

As far as reporting goes, we automatically send out a formal report whenever trap results indicate that visible defoliation might be observed in the following season. We will also follow up and schedule larval sampling for the following year. Otherwise, we have issued periodic regional reports summarizing results of the early warning system every few years. In addition, each year after trap collection we do send a dg note to the Forest's summarizing results so that they know we aren't anticipating any visible defoliation.

#### Western Defoliator Group

Terry Rogers, Entomologist, NM Zone Entomology and Pathology, and I discussed this over phone and we would suggest meeting on a semi-annual basis, as needed. We feel there is a need for the group and that the region would be interested in participating.

I would very much appreciate receiving a copy of the minutes for the meeting and look forward to seeing what the group discusses concerning these topics as well as the other agenda items.



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